THE SOUTHWESTERN NATURALIST 28(4):487-510 DECEMBER 9, 1983

# INDEX TO VOL. 28
# 1983
## Compiled by Michael J. Smolen

A

Acarina: New distribution record for the genus cheiroseius with a description of a new species, 225

*Acris crepitans*: (Hylidae) Past occurrences in Arizona, 105

Adams, Caroline S.: See Cooper, Jr. William E., 275

Agavaceae: Nectar amino acids in four species of *Agave*, 113

*Agave*, agavaceae: Nectar amino acids in four species, 113

Altig, Ronald: see Ireland Patric H., 271

Amblyopsidae: Southern cavefish, *Typhlichthys subterraneus* Oklahoma records, 471

Ant: Nest architecture and population of the honey ant, *Myrmecocystus mexicanus* (Formicidae), in Colorado, 21

*Antiphytum hintoniorum*: (Boraginaceae), A bizarre new gypsophile from north-central Mexico, 457

Ants: (Hymenoptera; Formicidae) of the Chisos Mountains, Texas, 137

Ants: Seed dispersal in the Rocky Mountains, 289

Anurans: In Vekol Valley, central Arizona, 469

*Aquilegia micrantha*: (Ranunculaceae) pollination ecology in Colorado, 157

Arizona, central: Anurans of Vekol Valley, 469

Arizona, northern: Southwestern pine tip moth; notes on larval descent behavior, predators, and associated shoot borer, 95

Arizona: Parasites of fishes, 399

Arizona: Past occurrences of *Acris crepitans* (Hylidae), 105

Arizona: Seasonal analysis of aquatic invertebrates and detritus in a small mountain stream, 189

Arkansas river: Plant communities in eastern Colorado, 249

Arkansas: A new record of *Caecidotea steevesi* (Isopoda; asellidae), 100

Arkansas: Key to the dorsal guard hairs of game mammals and furbearers, 315

Arkansas: Key to the gilled salamander larvae and larviform adults, 271

Arrigo, Rosetta D.: see Stacy, Peter B., 99

Ascidae: New distribution record for the genus *Cheiroseius* with a description of a new species, 225

Asellidae, Isopoda: A new record of *Caecidotea steevesi* from Arkansas, 100

Astragalus: Pre-dispersal seed feeding insects of a desert legume, 466

*Athene Cunicularia*: food habits in Oklahoma, 100

B

Badger: Observation of copulatory and agonistic behavior, 107

Barber, Willard E. and W. L. Minckley: Feeding ecology of a southwestern cyprinid fish, the spikedace, *Meda Fulgida* Girard, 33

Bass, largemouth: *Micropterus Salmoides* choking on prey, 380

Bazan, Evangelina: see Neumann Alan J., 239

Beattie, Andrew J.: see Turnbull Christine L., 289

Bechtel, R. C., L. M. Hanks and R. W. Rust: Coleoptera of sand mountain and blow sand mountains, Nevada, 473

Behavior, activity: Nocturnal activity of male *Dipodomys ordii* (heteromyidae), 341

Behavior, agonistic: Badger, 107

Behavior, cooling: Mourning doves in northeastern Colorado, 335

Behavior, copulatory: Badger, 107

Behavior, larval descent: Southwestern pine tip moth; in northern Arizona, 95

Behavior, nesting: Mourning doves in northeastern Colorado, 335

Belize: *Mimon crenulatum keenani* (chiroptera; phyllostomidae), 374

Belk, Denton: New fairy shrimp distribution records among collections at the California Academy of Sciences, 380

Bergey, Elizabeth: see Gray, Lawrence J., 125

Best, Troy L., and Paul J. Polechla: Foods of the Texas spotted whiptail lizard (Cnemidophorus gularis) in New Mexico, 376

Biogeographic relationships: Pocket gophers in southeastern Colorado, 53

Bird, Conkling's roadrunner: A subspecies of the California roadrunner?, 407

Bird, lesser prairie chicken: Food selection in northwest Texas, 381

Bird, mourning dove: Cooing activity and nesting in northeastern Colorado, 335

Bird: DDE and toxaphene residues reflect local contamination in the lower Rio Grande Valley, Texas, 325

Bissell, Steven J.: see Moulton, Michael P., 53

Blow Sand Moutains: Nevada Coleoptera, 473

Bohls, Roger: see Bolen E. G., 463

Bolen, Eric G.: see McDaniel B., 225

Bolen, E. G., B. McDaniel and Roger Bohls: New distribution records and physiographic associations in Texas for *Phyllozetes hypoquercus*, 463

Boles, Patrick H. and William A. Dick-Peddie: Woody riparian vegetation patterns on a segment of the Mimbres river in southwestern New Mexico, 81

Boraginaceae: *Antiphytum hintoniorum*, new gypsophile from north-central Mexico, 457

Braun, Clait E.: see Olson Thomas E. 335

Breeding range: Northeastern extension of the elf owl in New Mexico, 99

Breeding: Bighorn sheep, 460

Bretting, P. K.: The taxonomic relationship between *Proboscidae louisianica* and *Proboscidea fragrans* (Martyniaceae), 445

Britton, Carlton M. and Allen A. Steuter: Production and nutritional attributes of tobosagrass following burning, 347

Brown, David E.: On the status of the jaguar in the southwest, 459

Browse, nutritive content: Following rangeland burning in south Texas, 242

Brush, Timothy: First nesting of a new world woodpecker in Tamarisk (Tamarix chinensis), 113

Bryan C. Fred: see Conner John V., 118

Bryophytes: Of Huntsville State Park, Texas, 239

Burning, rangeland: Nutritive contents of two grasses and on browse species in south Texas, 242

Burning: Production and nutritional attributes of tobosagrass following, 347

C

Cactaceae: Microhabitat differences between *Opuntia parryi* and *O. littoralis*, 215

Cacti: Growing as epiphytes, 120

Cacti: Non-equilibrium population structure in three chihuahuan desert species, 115

Cactus Wren: (Camphylorhynchus brunneicapilluys) variations in patterns of reproduction, 149

Caddisfly: (Insecta; Tricoptera) new for New Mexico, 413

Caddisfly: (Insecta; Tricoptera) records of New Mexico. 353

*Caecidotea steevesi*; (Isopoda; Asellidae) new record from Arkansas, 100

California Academy of Sciences: Fairy shrimp distribution records, 380

California, southern: Population ecology of *Perognathus fallax* (Rodentia; Heteromyidae), 429

California, southern: Reproduction of the coast horned lizard, *Phrynosoma coronatum*, 478

Cambell, III, Thomas M. and Tim W. Clark: Observation of badger copulatory and agonistic behavior, 107

*Campylorhynchus brunneicapillus*: Annual variations in patterns of reproduction, 149

Capture-recapture: Attributes of data for *Sigmodon hispidus*, 108

Carr, John L.: see Houseal Timothy W., 237

Carter, Dilford C.: see Jones. Jr. J. Knox, 378

*Catostomidae*: Maturity and fecundity of the bluehead sucker, *Catostomus discobolus* in the Upper Colorado River Basin, 120

*Catostomus discobolus*: Maturity and fecundity in the Upper Colorado River Basin, 120

Cavefish, southern: *Typhlichthys subterraneus*, reevaluation records, 471.

Ceballos, Gerardo and Carlos Galindo, *Glaucomys volans* Goldmani (Rodentia; Sciuridae) in Central Mexico, 376

Century plants: Partitioning of plants by hummingbirds, 143

*Cheiroseius*: A new distribution record for the genus with a description of a new species from Texas (Acarina; Ascidae), 225

Cheloniidae: Autumn sightings of marine turtles off South Texas, 281

Chemicals, DDE and toxaphene: Residues in fishes and birds reflect local contamination in the Lower Rio Grande Valley, Texas, 325

Chickens, lesser prairie: Food selection in Northwest Texas, 381

Chihuahuan Desert: Non-equilibrium population structure in three species of cacti, 115

Chihuahuan Desert: Tadpole size and predation, 470

Chiroptera, Phyllostomidae: *Mimon crenulatum keenani* from Belize, 374

Chisos Mountains, Texas: Ants (Hymenoptera; Formicade) of, 137

Choate, Jerry R.: see Moulton, Michael P., 53

Cladocera, Crustacea: *Leptodora kindtii* in Southern Louisiana, 18

Clark, Tim W.: see Campbell, III Thomas M., 107

Clavidae, Hydroida: Records of *Cordylophora lacustris* from Texas, 112

*Cnemidophorus gularis*: Foods of the Texas spotted whiptail lizard in New Mexico, 376

*Cnemidophorus inornatus*: (Reptilla, Teiidae) reproduction in an upper elevation population, 9

*Cnemidophorus martyris*: Variation and systematic relationships, 1

Coeloptera: In Sand Mountain and Blow Sand Mountains, Nevada, 473

Colonization: Benthic diatoms in a new farm pond and its feeder creek, 244.
Colorado River Basin: Status of the razorback sucker, *Xyrauchen texanus* in the river basin, 165
Colorado River: Maturity and fecundity of the bluehead sucker, *Catostomus discobolus* (Catostomidae), in the upper basin, 120
Colorado, eastern: A comparison of the plant communities of the South Platte and Arkansas river drainages, 249
Colorado, northeastern: Cooing activity and nesting of mourning doves, 335
Colorado, southeastern: Biogeographic relationships of pocket gophers, 53
Colorado: Aquatic macroinvertebrates along spatial and temporal gradients, 125
Colorado: Nest architecture and population of the honey ant, *Myrmecocystus mexicanus* (Formicidae), 21
Colorado: Pollination ecology of *Aquilegia micrantha* (Ranunculaceae), 157
Colubridae: Taxonomic status of the corn snake, *Elaphe guttata* in Louisiana and Eastern Texas, 105
Communities, plant: A comparison of the South Platte and Arkansas River drainages, 249
Community responses: Aquatic macroinvertebrates along spatial and temporal gradients, 125
Community, plant: Composition, pocket gophers, tanks, 378.
Competition: Among coexisting heteromyids in the Southwest, 41
Conley, Walt: see Thompson Thomas G., 199
Conner, John V. and C. Fred Bryan: *Leptodora kindtii* (Focke) (Crustacea; cladocera) in in southern Louisiana, 118
Contamination, DDE and Toxaphene: Fishes and birds in the Lower Rio Grande Valley, Texas, 325
Conway, John R.: Nest architecture and population of the honey ant, *Myrmecocystus mexicanus* Westmael (Formicidae), in Colorado, 21
Cooper, Jr. William E., Caroline S. Adams and James L. Dobie: Female color change in the keeled earless lizard, *Holbrookia propinqua*: relationship to the reproductive cycle, 275.
*Cordylophora lacustris:* (Hydroida; Clavidae) records from Texas, 112
Cornett, James W.: Erratum, 386
Coutenay, Jr., Walter R. and James E. Deacon: Fish introductions in the American Southwest: a case history of Rogers Spring, Nevada, 221
Crews, Celinda R.: see Harris, Arthur H., 407
Cricetidae: Karyotypes and a range extension of *Reithrodontomys* from Mexico, 372
Cross, Frank B.: see Mayden, Richard L., 471
Crustacea, Cladocera: *Leptodora kindtii* in Southern Louisiana, 118

D

Davis, Jack R.: see McClung G. Dan, 112
Deacon, James E.: see Courtenay, Jr., Walter R., 221
Decomposition, plant material: Influence of soil biota, 423
Deformity: Among threadfin shad, an usually high incidence of spinal deformity, 117
Dehoney, Betty and William S. Gaud: Seasonal analysis of aquatic invertebrates and detritus in a small mountain stream in Arizona, 189
Density: Texas tortoise *Gopherus berlanderi*, 387
Desert: Decomposition rates of various quantities of buried litter, 111
Desert, Chihuahuan: Population structure in three species of cacti, 115
Detritus: Seasonal analysis in a small mountain stream in Arizona, 189
Diatoms, Benthic: Colonization in a new farm pond and its feeder creek, 244
Dick-Peddie, William A.: see Boles, Patrick H., 81
*Dipodomys ordii*: (Heteromyidae) pattern of nocturnal activity, 341
Dispersal seed: Ants in the Rocky Mountains, 289
Dobie, James L.: see Cooper, Jr., William E., 275
Doerr, Ted B. and Fred S. Guthery: Food selection by lesser prairie chickens in northwest Texas, 381
Drought: Population changes in a mediterranean scrub rodent assembly, 47

E

Eckert, Robert: see Yeaton, Richard I., 215
Ecology, pollination: of *Aquilegia micrantha* (Ranunculaceae) in Colorado, 157
Edwards, Robert J.: see Pezold, Frank L., 102
Edwards, Thomas C.: see Stacy, Peter B., 99
*Elaphe guttata*: (Colubriade), taxonomic status in Louisiana and eastern Texas, 105
Environmental conditions: Aquatic macroinvertebrates along spatial and temporal gradients, 125
Epiphytes: Southwestern cacti, 120
Erratum: 386
Everitt, J. H. and H. S. Mayeux: Nutritive contents of two grasses and on browse spe-

cies following rangeland burning in south Texas, 242
Everitt, J. H.: Germination of mescal bean (sophora secundiflora) seeds, 437

F

Feeding ecology: A cyprinid fish, the spikedace, *Meda Fulgida*, 33
Ferrets, black-footed: Additional records in Wyoming, 95
Fish, bluehead sucker: *Catostomus discobolus*, maturity and fecundity in the upper Colorado river basin, 120
Fish, central mudminnow: (Umbra Limi) in Missouri, with an anlysis of summer foods, 371
Fish, parasites: From Arizona and New Mexico, 399
Fish: Additions to the Texas marine ichthyofauna, with notes on the Rio Grande Estuary, 102
Fish: Cold death at Port Aransas, Texas: January 1982, 464
Fish: Colorado squawfish. ptychocheilus lucius (cyprinidae). and channel catfish. Ictalurus punctatus (inctaluridae), 119
Fish: DDE and Toxaphene residues reflect local contamination in the Lower Rio Grande Valley, Texas, 325
Fish: High incidence of spinal deformity among threadfin shad, 117
Fish: Introductions in the American southwest, 221
Fish: Largemouth bass *Micropterus salmoides* choking on prey, 380
Fish: Records of the southern cavefish, *Typhlichthys subterraneus* (amblyopsidae), 471
Fish: tooth replacement in king mackerel, *Scomberomorus cavalla*, 261
Food, analysis: Central mudminnow (Umbra limi) in Missouri, 371
Food, selection: Lesser prairie chickens in northwest Texas, 381
Food: Of Texas spotted whiptail lizard (Cnemidophorus gularis) in New Mexico, 376
Food: Of the burrowing owl (Athene cunicularia) in Oklahoma, 100
*Formica Haemorrhoidalis*: (Hymenoptera; Formicaidae) internest movement, 295
Formicidae, hymenoptera: internest movement in *Formica Haemorrhoidalis*, 295
Formicidae: Ants of the Chisos Mountains, Texas, 137
Formicidae: Nest architecture and population of the honey ant, *Myrmecocystus mexicanus* in Colorado, 21
Fowler, Harold G. and Walter G. Whitford: Pre-dispersal seed feeding insects of a desert legume, *Astragalus nutallianus*, 466
Freeman, C. Edward, William H. Reid and John W. Zaun: Nectar amino acids in four species of *Agave* (Agavaceae), 113
Freeman, C. Edward: see Walters James Peter, 357
Freeman, Patricia Waring: see Lemen, Cliff, 41
Frost, Darrel: Past occurrences of *Acris Crepitans* (Hylidae) in Arizona, 105

G

Galindo, Carlos: see Ceballos Gerardo, 376
Gaud, William S.: See Dehoney, Betty, 189
Gemsbok: (Oryx gazella) in White Sands National Monument, 97
*Glaucomys volans goldmani*: (Rodentia; Sciuridae) in central Mexico, 376.
Goertz, John W.: see Means, Linda L., 61
Goldberg, Stephen R.: Reproduction of the coast horned lizard, *Phrynosoma coronatum* in southern California, 478
Good, D. A.: see Rogers Duke S., 372
*Gopherus berlanderi*: Texas tortoise population structure, density, and movements, 387
Gradients, spatial and temporal: Aquatic macroinvertebrates along environmental conditions, 125
Graham Gadzia, Jimi S. and John A. Ludwig: Mesquite age and size in relation to dunes and artifacts, 89
Grass: New distribution records for northern Mexico, 461
Grasses, nutritive content: Following rangeland burning in south Texas, 242
Gray, Lawrence J. and James V. Ward: Response of lotic periphyton to sediment release from a reservoir, 239
Greer, John Keever: In memoriam, 385
Guthery, Fred S. and Nancy H. Herbert: Attributes of capture-recapture data for *Sigmodon hispidus*, 108
Guthery, Fred S.: see Doerr, Ted B., 381
Gypsophile: New from north-central Mexico, 457

H

*Habenaria integra*: (Orchidaceae) distribution in Mississippi, Louisiana, and Texas. 451
Habitat, gypsum sand dune: influnece of soil biota on decomposition of plant material, 423
Hair, dorsal guard: Key to Arkansas game mammals and furbearers, 315
Hanks, L. M.: see Bechtel R. C., 473
Hanzawa, Frances M.: see Turnbull, Christine L., 289
Hardy, Laurence M.: see Raymond, Larry R., 105

Harris, Arthur H. and Celinda R. Crews: Conkling's roadrunner-a subspecies of the Califonria roadrunner?, 407
Hart, E. Blake: In memoriam: John Keever Greer, 1930-1980, 385
Hatch, Stephan L.: see Valdes-Reyna, Jesus, 461
*Helianthus Anomalus*: Hopi protection of a rare sunflower, 231
*Hemileuca* sp.: (Lepidoptera; Saturnidae) larvae defoliate sand shinnery oak, (Quercus havardii rybd.) in western Texas, 383
Hendrickson, James: A revision of *Samolus ebracteatus* (sensu lato) (primulaceae), 303
Herbert, Nancy H.: see Gutherey Fred S., 108
Heske, E. J.: see Rogers Duke S., 372
Heteromyidae, Rodentia; Population ecology of *Perognathus fallax* in southern California, 429
Heteromyidae: Pattern of nocturnal activity of male *Dipodomys ordii*, 341
Heteromyids: Quantification of competition among coexisting species, 41
Hidalgo, Mexico: Records of mammals, 378
Higgins, Larry and B. L. Turner: *Antiphytum Hintoniorum* (Boraginaceae), A bizarre new gypsophile from north-central Mexico, 457
*Holbrookia propinqua*: Female color change in relationship to the reproductive cycle, 275
Holmes, W. C.: The distribution of *Habenaria integra* (nutt.) spreng. (Orchidaceae) in Mississippi, Louisiana and Texas, 451
Holt, G. Joan: see Holt Scott A., 464
Holt, Scott A. and G. Joan Holt: Cold death of fishes at Port Aransas, Texas; January 1982, 464
Houseal, Timothy W. and John L. Carr: Notes on the reproduction of *Kinosternon subrubrum* (Testudines; Kinosternidae) in East Texas, 237.
Hummingbirds, Black-chinned and Lucifer: Partitioning of flowering century plants, 143
Huntsville State Park, Texas: Bryophytes, 239
Hurricane Allen: Effect on the near-shore vegetation of South Padre Island, 365
Hydroida, Clavidae: Records of *Cordylophora lacustris* from Texas, 112.
Hylidae: Past occurrences of *Acris crepitans* in Arizona, 105
Hymenoptera, Formicidae: Internest movement in *Formica Haemorrhoidalis*, 295
Hymenoptera: Formicidae of the Chisos Mountains, Texas, 137

I

*Ictalurus punctatus*: Lodged in the throat of Colorado squawfish, *Ptychocheilus lucius*, 119
Insects: Pre-dispersal seed feeding of a desert legume, *Astraugalus*, 466
Insecta, Tricoptera: New caddisfly in New Mexico, 353
Insecta, Tricoptera: New caddisfly records for New Mexico, 413
Invertebrates, aquatic: Seasonal analysis in a small mountain stream in Arizona, 189
Ireland, Patric H. and Ronald Altig: Key to the gilled salamand er larvae and larviform adults of Arkansas, Kansas, Missouri and Oklahoma, 271
Isopoda, Asellidae: A new record of *Caecidotea steevesi* from Arkansas, 100

J

Jaguar: Status in the Southwest, 459
Jennings, Daniel T.: see Lawson H. Randy, 95
Jones. Jr., J. Knox, Dilford C. Carter and Wm. David Webster: Records of mammals from Hidalgo, Mexico, 378
Jones, K. Bruce, Lauren Porzer Kepner and William G. Kepner: Anurans of Vekol Valley, Central Arizona, 469
Joste, Nancy: see Stacy Peter B., 99
Judd, Frank W. and Francis L. Rose: Population structure, density, and movements of the Texas tortoise *Gopherus Berlanderi*, 387
Judd, Frank W. and Sammie L. Sides: The effect of hurricane Allen on the near-shore vegetation of South Padre Island, 365

K

Kansas: Key to the gilled salamander larvae and larviform adults, 271
Karyotypes: *Reithrodontomys* (Cricetidae; subgenus Aporodon) from Mexico, 372
Kennedy, Harry D.: see White, Donald H., 325
Kepner, Lauren Porzer: see Jones, K. Bruce, 469
Kepner, William G.: see Jones K. Bruce, 469
Key: Gilled salamander larvae and larviform adults of Arkansas, Kansas, Missouri, and Oklahoma, 271
Key: To the dorsal guard hairs of Arkansas game mammals and furbearers, 315
King, William Ken: see Morgan Edward C., 261
Kinosternidae: Notes on the reproduction of *Kinosternon subrubrum*, 237.
*Kinosternon subrubrum*: Notes on the reproduction in East Texas, 237
Kofron, Christopher P. and A. Alan Schreiber: The central mudminnow (Umbra limi) in Missouri, with an anlaysis of summer foods, 371
Krappa, Ralph: see Reid, William, 120
Krausman, Paul R.: see Morgart, John R., 460

Krischan, Thomas M.: see Stromberg, Juliet C., 211

Krynitsky, Alexander J.: see White, Donald H. 325

Kuban, Joseph K., John Lawley and Robert L. Neill: The partitioning of flowering century plants by black-chinned and lucifer hummingbirds, 143

L

Labiatae: Mericarp micromophology of great plains *Scutellaria*, 71

Lane, Thomas A.: Mericarp micromorphology of great plains *Scutelaria* (Labiatae), 71

Langford, Andrew: Pattern of nocturnal activity of male *Dipodomys ordii* (Heteromyidae), 341

*Larrea tridentata*: Growth rates and root: shoot ratios in seedlings, 357

Lawley, John: see Kuban, Joseph K. 143

Lawrence, J. et al.: Aquatic macroinvertebrates of the Piceanace Basin, Colorado: community response along spatial and temporal gradients of environmental conditions, 125

Lawson, H. Randy and Daniel T. Jennings: Southwestern pine tip moth: notes on larval descent behavior, predators, and associated shoot borer in Northern Arizona, 95

Layendecker, Ellen: see Yeaton, Richard I. 215

Leatherwood, Stephen: see Reeves, Randall R., 281

Legume, desert: *Astragalus*, pre-dispersasl seed feeding insects, 466

Lemen, Cliff and Patricia Waring Freeman: Quantification of competition among coexisting heteromyids in the Southwest, 41.

Lepidoptera, Saturnidae: *Hemileuca* sp. larvae defoliates sand shinnery oak, (Quercus havardii rybd.) in Western Texas, 383

*Leptodora kindtii*: (Crustacea; Cladocera) in Southern Louisiana, 118

Leverich, Wesley J.: Pocket gophers, tanks, and plant community composition, 378

Lindaver, Ivo E: A comparison of the plant communities of the South Platte and Arkansas River drainages in Eastern Colorado, 249

Litter: Decomposition rates of buried litter in a desert, 111

Lizard, coast horned: *Phrynosoma coronatum* reproduction in Southern California, 478

Lizard, keeled earless: *Holbrookia Propinqua*: female color change in relationship to the reproductive cycle, 275

Lizard, Texas spotted whiptail: (*Cnemidophorus gularis*) in New Mexico, 376

Lizard: San Pedro Martir whiptail, variation and systematic relationships (Cnemidophorus martyris stejneger, Teiidae), 1.

Louisiana, northern: Nesting activities of northern mockingbirds, 61

Louisiana, southern: *Leptodora Kindtii* (Crustacea; Cladocera), 1

Louisiana: Distribution of *Habenaria integra* (Orchidaceae), 451

Louisiana: Taxonomic status of the corn snake, *Elaphe Guttata* (Colubridae), 105

Lozano, Rogelio: see Reid William, 115

Ludwig, John A.: see Graham Gadzia, Jimi S. 89

M

Mackay, Emma: see Mackay, William, 295

Mackay, William and Emma Mackay: Analysis of internest movement in *Formica Haemorrhoidalis Emery* (Hymenoptera: Formicidae), 295

Mackerel, king: Scomberomorus cavalla (pisces, scombridae) tooth replacement, 261

Macroinvertebrates, aquatic: Colorado: response along spatial and temporal gradients of environmental conditions, 125

Mammals, game and furbearres: Key to the dorsal guard hairs, 315

Mammals: records from Hidalgo, Mexico, 378

Marr, Thomas G. and Ralph J. Raitt: Annual variations in patterns of reproduction of the cactus wren (Campylorhynchus brunneicapillus), 149

Marsh, Paul C. and William E. Rinne: An usually high incidence of spinal deformity among threadfin shad, 117

Martin, Stephen J.: Additional records of black-footed ferrets in Wyoming, 95

Martinson, Robert: see Gray, Lawrence J., 125

Martyniaceae: Taxonomic relationship between *Proboscidea louisianica* and *Proboscidea fragrans*, 445

Mayden, Richard L. and Frank B. Cross: Reevaluation of Oklahoma records of the southern cavefish, *Typhlichthys subterraneus* girard (Amblyopsidae), 471

Mayeux, H. S.: see Everitt, J. H., 242

McAda, Charles W. and Richard S. Wydoski: Maturity and fecundity of the bluehead sucker, *Catostomus discobolus* (Catostomidae), in the upper Colorado River Basin, 120

McAda, Charles W. and Richard S. Wydoski: Maturity and fecundity of the bluehead sucker, *Catostomus discobolus* (Catostomidae), in the upper Colorado River Basin, 120

McAda, Charles W.: Colorado squawfish, *Ptychocheilus lucius* (Cyprinidae), with a channel catfish, *Ictalurus punctatus* (Ictaluridae) lodged in its throat, 119

McCafferty, W. P.: see Waltz, R. D., 353
McCafferty, W. P.: see Waltz, R. D., 413
McClenaghan, Jr., Leroy R.: Notes on the population ecology of *Perognathus fallax* (Rodentia: Heteromyidae) in southern California, 429
McClung, G. Dan and Jack R. Davis: Additional records of *Cordylophora lacustris* all man, 1871 (Hydroida; Clavidae) from Texas, 112
McDaniel B. and Eric G. Bolen: A new distribution record for the genus *Cheiroseius* berlese with a description of a new species from Texas (Acarina; Ascidae), 225.
McDaniel, B.: see Bolen, E. G., 463
Means, Linda L. and John W. Goertz: Nesting activities of northern mockingbirds in northern Louisiana, 61
*Meda fulgida*: feeding ecology, 33
Memoriam: John Keever Greer, 1930-1980, 385
Mescal Bean: (Sophora secundiflora) Germination of seeds, 437
Mesquite: Age and size in relation to dunes and artifacts, 89
Mexico, Central: *Glaucomys volans* Goldmani (Rodentia: Sciuridae), 376
Mexico, North-Central: *Antiphytum hintoniorum* (Boraginaceae), a new gypsophile, 457
Mexico, Northern: New grass distribution records, 461
Mexico: Karyotypes and a range extension of *Reithrodontomys*, 372
Mexico: Records of mammals from Hidalgo, 378
Mexico: Vegetation structure at Punta, Sonora, 211
Microarthropods, soil: seasonal and spatial variation of the White Sands National Monument, 417
Microhabitat: Differences between *Opuntia parryi* and *O. littoralis* (Cactaceae), 215
Micromorphology: Mericarp of great plains *Scutellaria* (Labiatae), 71
Micropterus salmoides: Largemouth bass choking on prey, 380
Miller, Russell B. and Cynthia L. Willard: The pollination ecology of *Aquilegar Micrantha* (Ranunculaceae) in Colorado, 157
Mimbres River: Woody riparian vegetation patterns in southwestern New Mexico, 81
*Mimon crenulatum keenani*: (Chiroptera; Phyllostomidae) from Belize, 374
Minckley, W. L.: see Barber, Willard E., 33
Minckley, W. L.: Status of the razorback sucker, *Xyrauchen texanus* (Abbott), in the Lower Colorado River Basin, 165
Mississippi: Distribution of *Habenaria integra* (Orchidaceae), 451
Missouri: Central mudminnow (*Umbra limi*), 371
Missouri: Key to the gilled salamander larvae and larviform adults, 271
Mitchell, Christine A.: see White, Donald H. 325
Mockingbirds, northern: Nesting activities in northern Louisiana, 61
Morgan, Edward C. and William Ken King: Tooth replacement in king mackerel, *Scomberomorus cavalla* (pisces, Scombridae), 261
Morgart, John R. and Paul R. Krausman: Early breeding in bighorn sheep, 460
Moth, southwestern pine tip: Larval descent behavior, predators, and associated shoot borer in northern Arizona, 95
Moulton, Michael P., Jerry R. Choate and Steven J. Bissell: Biogeographic relationships of pocket gophers in southeastern Colorado, 53
Movement: Texas tortoise *Gopherus berlanderi*, 387
Mpoame, Mbida and John N. Rinne: Parasites of some fishes native to Arizona and New Mexico, 399
Mueller, Dale M. J.: see Neumann, Alan J. 239
*Myrmecocystus mexicanus*: Nest architecture and population in Colorado, 21

N

Nabhan, Gary Paul and Karen L. Reichhardt: Hopi Protection of *Helianthus Anomalus*, a rare sunflower, 231
Nectar: Amino acids in four species of *Agave* (Agavaceae), 113
Neill, Robert L.: see Kuban, Joseph K., 143
Nest: Architecture of the honey ant, *Myrmecocystus mexicanus* (Formicidae), in Colorado, 21
Nesting: First of a new world woodpecker in Tamarisk (Tamarix Chinensis), 113
Nesting: Northern mockingbirds in northern Louisiana, 61
Neumann, Alan J. et al.: Bryophytes of Huntsville State Park, Texas, 239
Nevada: Coleoptera of Sand Mountain and Blow Sand Mountains, 473
Nevada: Fish introductions in Rogers Spring, 221
New Mexico, South-Central: Discrimination of coexisting species of *Peromyscus*, 199
New Mexico, Southwestern: Woody riparian vegetation patterns on a segment of the Mimbres River, 81
New Mexico: Foods of the Texas spotted whiptail lizard (Cnemidophorus gularis), 376
New Mexico: New caddisfly (Insecta: Tricoptera), 353

New Mexico: New record of caddisfly (insecta: tricoptera), 413
New Mexico: Northeastern extension of the breeding range of the elf owl, 99
New Mexico: Parasites of fishes, 399

O

Oak, sand shinnery: (Quercus havardii rybd.) defoliation in western Texas by *Hemileuca* sp. (Lepidoptera: Saturnidae) Larvae, 383
Odom, Ross: see Reid, William, 115
Oklahoma: Key to the gilled salamander larvae and larviform adults, 271
Oklahoma: Notes on burrowing owl (Athene cunicularia) food habits, 100
Oklahoma: Records of the southern cavefish, *Typhlichthys subterraneus* (Amblyopsidae), 471.
Olson, Thomas E., Clait E. Braun and Ronald A. Ryder: Cooing activity and nesting of mourning doves in northeastern Colorado, 335
*Opuntia: Parryi* and *O. Littoralis* (Cactaceae) microhabitat differences in the mixed chaparral-island coastal sage association, 215
Orchidaceae: Distribution of *Habenaria integra* in Mississippi, Louisiana, and Texas, 451
*Oryx gazella*: Gemsbok in White Sands National Monument, 97
Owl, burrowing: (Athene cunicularia) food habits in Oklahoma, 100
Owl, elf: Northeastern extension of the breeding range in New Mexico, 99

P

Parasites: Of fishes native to Arizona and New Mexico, 399
Partitioning: Of flowering century plants by hummingbirds, 143
Patrick, Gail R.: see Reid, William H., 97
Periphyton. lotic: To sediment release from a reservoir, 239
*Perognathus fallax*: (Rodentia: Heteromyidae) population ecology in southern California, 429
*Peromyscus*: Discrimination of coexisting species in south-central New Mexico, 199
Pezold, Frank L. and Robert J. Edwards: Additions to the Texas Marine Ichthyofauna, with notes on the Rio Grande Estuary, 102
*Phrynosoma coronatum*: Reproduction in southern California, 478
Phyllostomidae. Chiroptera: *Mimon crenulatum keenani* from Belize, 374
*Phyllozetes hypoquercus*: New distribution records and physiographic associations in Texas, 463
*Physiography*: *Phyllozetes hypoquercus* in Texas, 463
Piceance Basin, Colorado: Aquatic macroinvertebrates response along spatial and temporal gradients, 125
Pisces, scombridae: Tooth replacement in *Scomberomorus cavalla*, 261
Pocket gophers: Biogeographic relationships in southeastern Colorado, 53
Pocket gophers: Tanks, and plant community composition, 378
Polechla, Paul J.: see Best, Troy L., 376
Pollination: of *Aquilegia micrantha* (Ranunculaceae), 157
Population changes: In a mediterranean scrub rodent assembly during drought, 47
Population structure: Texas tortoise *Gopherus berlanderi*, 387
Population: The honey ant, *Myrmecocystus mexicanus* (Formicidae), in Colorado, 21
Port Aransas: Cold death of fishes, 464
Popualtion ecology: *Perognathus fallax* (Rodentia: Heteromyidae) in southern California, 429
Predation: On tadpoles in the Chihuahuan Desert, 470
Predators: Of the southwestern pine tip moth in northern Arizona, 95
Primulaceae: A revision of *Samoulus ebracteatus*, 303
*Proboscidea fragrans*: Taxonomic relationship with *Proboscidea louisianica* (Martyniaceae), 445
*Proboscidea louisianica*: Taxonomic relationship with *proboscidea fragrans* (Martyniaceae), 445
*Ptychocheilus Lucius*: Colorado squawfish, with a channel catfish, *Ictalurus punctatus* (Ictaluridae), lodged in its throat, 119

Q

*Quercus havardii*: Sand shinnery oak, defoliation in western Texas by *Hemileuca* sp, (Lepidoptera: Saturnidae) larvae, 383

R

Raitt, Ralph J.: see Marr, Thomas G., 149
Range extension: *Reithrodontomys* (Cricetidae; subgenus Aporodon) from Mexico, 372
Ranunculaceae: Pollination ecology of *Aquilegia micrantha* in Colorado, 157
Rates. decomposition: Buried litter in a desert, 111
Raymond, Larry R., and Laurence M. Hardy: Taxonomic status of the corn snake, *Elaphe guttata* (Linnaeus) (Colubridae), in Louisiana and eastern Texas, 105
Razorback sucker: Status of *Xyrauchen texanus* in the Lower Colorado River Basin, 165

Record, distribution: New grass in northern Mexico, 461
Record, distribution: *Phyllozetes hypoquercus* in Texas, 462
Record: A new distribution for the genus *Cheiroseius*, 225
Record: Additional of black-footed ferrets in Wyoming, 95
Record: Caddisfly (Insecta: Tricoptera) in New Mexico, 353
Record: *Caecidotea Steevesi* (Isopoda: Asellidae) from Arkansas, 100
Record: *Cordylophora lacustris* allman, 1871 (Hydroida: Clavidae) from Texas, 112
Record: Fairy shrimp distribution among collections at the California Academy of Sciences, 380
Record: First nesting of a new world woodpecker in tamarisk (Tamarix chinensis), 113
Record: Mammals from Hidalgo, Mexico, 378
Record: New caddisfly for New Mexico (Insecta: Tricoptera), 413
Record: Southern cavefish, *Typhlichthys subterraneus* (Amblyopsidae), 471
Reeves, Randall R. and Stephen Leatherwood: Autumn sightings of marine turtles (Cheloniidae) off South Texas, 281
Reichhardt, Karen L.: see Nabhan, Gary Paul, 231
Reid, William and Ralph Krappa: Southwestern cacti growing as epiphytes, 120
Reid, William, Rogelio Lozano and Ross Odom: Non-equilibrium population structure in three Chihuahuan Desert Cacti, 115
Reid, William H. and Gail R. Patrick: Gemsbok (Oryx gazella) in White Sands National Monument, 97
Reid, William H.: see Freeman C. Edwards, 113
*Reithrodontomys*: Karyotypes and a range extension from Mexico, 372
Reproduction patterns: Annual variations in patterns the cactus wren, 149
Reproduction: Coast horned lizard, *Phrynosoma coronatum* in Southern California, 478
Reproduction: Female color change in the keeled earless lizard, *Holbrookia propinqua*, 275
Reproduction: In an upper elevation population of *Cnemidophorus inornatus* (Reptilla, Teiidae), 9
Reproduction: In *Kinosternon subrubrum* (Testudines: Kinosternidae), 237
Ribick, Michael A.: See White, Donald H., 325
Rinne, John N.: see Mpoame, Mbida, 399
Rinne, William E.: see Marsh, Paul C., 117
Rio Grande Estuary: Additions to the Texas Marine Ichthyofauna, 102
Rio Grande Valley: DDE and Toxophene residues in fishes and birds in Texas, 325
Roadrunner, California: Conkling's roadrunner—a subspecies, 407
Roadrunner, Conkling's: A subspecies of the California roadrunner?, 407
Rocky Mountains: Seed dispersal by ants, 289
Rodentia, heteromyidae: Population of *Perognathus fallax* in southern California, 429
Rodentia, Sciuridae: *Glaucomys volans goldmani* in Central Mexico, 376
Rodents: Population changes in a mediterranean scrub during drought, 47
Rogers, Duke S., E. J. Heske and D. A. Good: Karyotypes and a range extension of *reithrodontomys* (Cricetidae; subgenus Apordon) from Mexico, 372
Rose, Fancis L.: see Judd, Frank W., 387
Ruiz, Ronald G.: *Mimon crenulatum, keenani* (Chiroptera; Phyllostomidae) from Belize, 374
Rushing, Ann E.: see Neumann, Alan J., 239
Rust, R. W.: see Bechtel, R. C., 473
Ryder, Ronald A.: see Olson, Thomas E. 335

S

Salamander: Key to the gilled larvae and larviform adults of Arkansas, Kansas, Missouri, and Oklahoma, 271
*Salmolus Ebracteatus*: (Primulaceae) a revision, 303
Sand Mountain: Nevada Coleoptera, 473
Santos, Perseu F. and Walter G. Whitford: Seasonal and spatial variation in the soil microartropod fauna of the White Sands National Monument, 417
Santos, Perseau F. and Walter G. Whitford: The influence of soil biota on decomposition of plant material in a gypsum sand dune habitat, 423
Saturnidae, Lepidoptera: *Hemileuca* sp. larvae defoliates sand shinnery oak, (Quercus havardii rybd.) in Western Texas, 383
Schram, Mark D.: A new record of *Caecidotea steevesi* (Isopoda; Asellidae) from Arkansas, 100
Schreiber, A. Alan: see Kofron Christopher P., 371
Sciuridae, Rodentia: *Glaucomys volans goldmani* in Central Mexico, 376
*Scomberomorus cavalla*: (Pisces; Scombridae) tooth replacement, 261
Scombridae, Pisces: tooth replacement in *Scomberomorus cavalla*, 261
*Scutellaria*, of Great Plains: (Labiatae) mericarp micromorphology, 71
Seed, Germination: Mescal bean (Sophora secundiflora), 437

Seedlings, growth and root: Shoot ratios: desert shrub *Larrea tridentata*, 357
Shad, Threadfin: Unusually high incidence of spinal deformity, 117
Sheep, bighorn: Early breeding, 460
Shoot borer: Associated with the southwestern pine tip moth: in Northern Arizona, 95
Shrimp, Fairy: New records among collections at the California Academy of Sciences, 380
Sides, Sammie L.: see Judd, Frank W., 365
*Sigmodon hispidus*: Attributes of capture-recapture data, 108
Sly, Kevin S.: see Yeaton, Richard I., 215
Snake, corn: *Elaphe guttata* taxonomic status in Louisiana and Eastern Texas, 105
Soil Biota: Influence on decomposition of plant material in a gypsum sand dune habitat, 423
Sonora, Mexico: Vegetation structure, 211
Sophora secundiflora: Germination of seeds, 437
South Padre Island: Effect of hurricane Allen on the near-shore vegetation, 365
South Platte River: Plant communities in Eastern Colorado, 249
Southwest: Fish introductions in Rogers Spring, Nevada, 221
Southwest: Status of the jaguar, 459
Species: New for the genus *Cheiroseius* from Texas (Acarina: Ascidae), 225
Spevak, Teryl A.: Population changes in a mediterranean scrub rodent assembly during drought, 47
Spikedace: *Meda Fulgida* feeding ecology, 33
Stacy, Peter B. et al.: Northeastern extension of the breeding range of the elf owl in New Mexico, 99
Steuter, Allen A.: see Britton, Carlton M., 347
Stevens, Timothy P.: Reproduction in an upper elevation population of *Cnemidophorus inornatus* (Reptilla, Teiidae), 9
Stromberg, Juliet C. and Thomas M. Krischan: Vegetation structure at Punta, Sonora, Mexico, 211
Sunflower: Hopi protection of *Helianthus anomalus*, 231
Systematic: Relationships and variation in the San Pedro Martir whiptail lizard, 1

T

Tadpole: Size and predation in the Chihuahuan Desert, 470
Tamarisk: (Tamarix Chinensis) nesting by a new world woodpecker, 113
*Tamarix Chinensis*: First nesting by a new world woodpecker, 113
Tash, Jerry C.: see Wanjala Benny, 380
Teiidae: Reproduction in an upper elevation population of *Cnemidophorus inorntus*, 9
Teiidae: Variation and systematic relationships of the San Pedro Martair whiptail lizard *Cnemidophorus martyris*, 1
Testudines, Kinssternidae: Reproduction of *Kinosternon subrubrum*, 237
Texas, Chisos Mountains: Ants (Hymenoptera; Formicidae), 137
Texas, East: Notes on the repoduction of *Kinosternon subrubrum* (Testudines: Kinosternidae), 237
Texas, Eastern: Taxonomic status of the corn snake, *Elaphe Guttata* (Colubridae), 105
Texas, Northwest: Food selection by lesser prairie chickens, 381
Texas, Port Aransas: Cold death of fishes, 464
Texas, South: Nutritive contents of two grasses and on browse species following rangeland burning, 242
Texas, South: Autumn sightings of marine turtles (Cheloniidae), 281
Texas, Western: Defoliation of sand shinnery oak, (*Quercus havardii* rybd.) by *Hemileuca* sp. (Lepidoptera: Saturnidae) Larvae, 383
Texas: Bryophytes of Huntsville State Park, 239
Texas: DDE and Toxaphene residues in fishes and birds in the Lower Rio Grande Valley, 325
Texas: Distribution of *Habenaria Integra* (Orchidaceae), 451
Texas: Marine Ichthyofauna, with notes on the Rio Grande Estuary, 102
Texas: New distribution record for the genus *Cheiroseius* with a description of a new species (Acarina: Ascidae), 225
Texas: New distribution records and physiographic associations for *Phyllozetes hypoquercus*, 463
Texas: Records of *Cordylophora lacustris* (Hydroida: Clavidae), 112
Thompson, Thomas G. and Walt Conley: Discrimination of coexisting species of *Peromyscus* in South-Central New Mexico, 199
Tobosagrass: Production and nutritional attributes following burning, 347
Tooth: Replacement in king mackerel, *Scomberomorus cavalla* (Pisces: Scombridae), 261
Tortoise, Texas: *Gopherus berlanderi* population structure, density, and movements, 387
Tricoptera, Insecta: New caddisfly in New Mexico, 353
Tricoptera, Insecta: New caddisfly records for New Mexico, 413
Troeger, William W.: Colonization of benthic diatoms in a new farm pond and its feeder creek, 244
Tumlison, Renn: An annotated key to the dorsal guard hairs of Arkansas game mammals and furbearers, 315

Turnbull, Christine L., Andrew J. Beattie and Frances M. Hanzawa: Seed dispersal by ants in the Rocky Mountains, 289
Turner, B. L.: see Higgins, Larry, 457
Turtles, Marine: (Cheloniidae) autumn sightings off South Texas, 281
Tyler, Jack D.: Notes on burrowing owl (*Athene cunicularia*) food habits in Oklahoma,
*Typhilichthys subterraneus*: (Amblyopsidae) the southern cavefish, Oklahoma Records, 471

U
*Umbra limi*: In Missouri, with an anlaysis of summer foods, 371
Urbaniak, Sandra and Walter G. Whitford: Decomposition rates of various quantities of buried litter in a desert, 111

V
Valdes-Reyna, Jesus and Stephan L. Hatch: New grass distribution records for Northern Mexico, 461
Van Pelt, Arnold: Ants of the Chisos Mountains, Texas (Hymenoptera: Formicidae), 137
Variation, Annual: In patterns of reproduction of the cactus wren, 149
Variation, seasonal and spatial: Soil microartropod fauna of the white sands National Monument, 417
Variation: And systematic relationships of the San Pedro Martir whiptail lizard (*Cnemidophorus martypris* Stejneger, Teiidae), 1
Vegetation patterns: Woody riparian along a segment of the Mimbres River in Southwestern New Mexico, 81
Vegetation: Structure at Punta, Sonora, Mexico, *Peromyscus*, 211
Vekol Valley: Central Arizona anurans, 469

W
Walker, J. Martin: Variation and systematic relationships of the San Pedro Martir whiptail lizard (Cnedmidophorus martyris Stejneger, Teiidae), 1
Walters, James Peter and C. Edwards Freeman: Growth rates and root: shoot ratios in sedlings of the desert shrub *Larrea tridentata*, 357
Waltz, R. D. and W. P. McCafferty: New caddisfly records for *New Mexico* (Insecta: Tricoptera), 413
Waltz. R. D. and W. P. McCafferty: New caddisfly records of New Mexico (Insecta: Tricoptera), 353
Wangberg, James K.: Defoliation of sand shinnery oak, (*Quercus havardii* Rybd.) in Western Texas by *Hemileuca* sp. (Lepidoptera: Saturnidae) larvae, 383
Wanjala, Benny and Jerry C. Tash: Largemouth bass *Micropterus salmoides* choking on prey, 380
Ward, James V.: see Gray, Lawrence J., 239
Ward, James V.: see Gray, Lawrence J., 125
Webster, Wm. David: see Jones, Jr. J. Knox, 378
White Sands National Monument: Gemsbok (Oryx gazella), 97
White Sands National Monument: Seasonal and spatial variation in the soil microartropod fauna, 417
White, Donald H. et al.: Elevated DDE and Toxaphene residues in fishes and birds reflect local contamination in the Lower Rio Grande Valley, Texas, 325
Whitford, Walter, G. see Santos Perseu F., 417
Whitford, Walter, G. see Santos Perseu F., 423
Whitford, Walter, G. see Urbaniak Sandra, 111
Whitford, Walter, G. see Fowler Harold G., 466
Willard, Cynthia L: see Miller Russell B., 157
Woodpecker: First nesting in Tamarisk (*Tamarix chinensis*), 113
Woodward, Bruce: Tadpole size and predation in the Chihuahuan Desert, 470
Wydoski, Richard S. see McAda Charles W., 120
Wyoming: Additional records of black-footed ferrets, 95

X
*Xyrauchen texanus*: Status of the razorback sucker, in the Lower Colorado River Basin, 165

Y
Yeaton, Richard I. et al.: Microhabitat differences between *Opuntia parryi* and *O. littoralis* (Cactaceae) in the mixed chaparral-island coastal sage sage association, 215

Z
Zaun, John W.: see Freeman C. Edwards, 113